(b) if so, the action taken by Government to warm public regarding the same;

(c) whether equipments for forecasting the Tsunami have been installed in India;

(d) if not, the reasons therefore; and

(e) whether Tsunami affected persons were warned again about likelihood Tsunami within a week, if so, the basis of such informations?

THE MINISTER OF STATE OF THE MINISTRY OF SCIENCE AND TECHNOLOGY (SHRI KAPILSIBAL): (a) No, Sir.

(b) Does not arise.

(c) No equipments for forecasting the Tsunami have been installed in India so far.

(d) No equipments were installed for forecasting the Tsunami in the Indian Ocean since Tsunamis are a rare phenomenon in this region. However, consequent to the recent Tsunami, Government has decided to setup a Tsunami early warning system in the Indian Ocean and and system will take approximately $2^{1}/_{2}$ years for becoming fully operational.

(e) Immediately after Tsunami some individuals were seen to be fore-warning people of the likelihood of another Tsunami. In light of the overall situation Government, as a precautionary measure, warned the people to stay away from the coastal areas. The basis of such a warning was a message predicting another earthquake and Tsunami in the Indian Ocean which was duly considered at the inter-ministerial meeting and it was decided that people should be advised to keep away from the coastal areas.

Plan allocation for Scientific Department

405 SHRI T.T.V. DHINAKARAN: Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) whether it is a fact that plan allocation for Scientific Departments have doubled during the tenth plan;

(b) if so, the details thereof;

(c) whether new schemes have been inroduced in areas of Research and Development during the tenth plan; and

(d) if so, the details thereof?

THE MINISTER OF STATE OF THE MINISTRY OF SCIENCE AND TECHNOLOGY (SHRI KAPILSIBAL): (a) Yes Sir.

(b) The Government has placed an outlay of Rs. 25,243.00 crores in the Tenth Five Year Plan for the Central Scientific Departments namely Department of Atomic Energy, Department of Ocean Development, Department of Science and Technology, Department of Biotechnology, Department of Scientific & Industrial Research and Department of Space, as against an outlay of Rs. 12,022.17 crores during the Ninth Five Year Plan. The allocation for the Tenth Five Year Plan is more than double the allocation made during the Ninth Five Year Plan, which indicates Government's commitment of development of science and technology.

(c) and (d) Some of the important schemes being taken up during the tenth plan for research and development by the scientific departments are as following:—

Department of Science and Technology—Seismology, technology for bamboo applications, synergy projects, *nano* science & technology, etc.

Department of Biotechnology & Stem cell research, human genetics, food and nutritional biotechnology, development of improved crop varieties, etc.

Department of Scientific & Industrial Research — Technology promotion, development and utilization programme, upgradation and upscaling of solar photovoltaic, operations fifty five new projects in networked mode.

Department of Ocean Development—Comprehensive swath bathymetric survey of Indian exclusive economic zone, gas-hydrate exploration & technology development for exploitation, acquisition of new research vessel, geophysical study of Laxmi basin.

Department of Atomic energy-Advanced reactors design and development, research and development in radiation technology for food preservation, health care, water desalination and farm products, etc. CIRUS reactor utilization programme, micro/nano technology, laser technology

for industrial applications, low temperature physics and superconductivity, etc.

Department of Space-Chandrayaan (India's first scientific mission to moon), ASTROSAT (Multi-wavelength Indian X-ray astronomy satellite), Radar Imaging Satellite (RISAT), Advanced Meteorological Satellite, GSLV Mk III and an integrated programme on reusable launch vehicles.

International Tsunami warning system

406. DR. AKHILESH DAS: Will the MINISTER OF OCEAN DEVEL OPMENT be pleased to state:

(a) whether Government have decided to make India Part of an international warning system designed to warn the coastal communities of sea floor earthquake rock disturbances such as Tsunami;

(b) if so, the details of the project-proposal; and

(c) the steps taken and being taken in that direction?

THE MINISTER OF STATE OF THE DEPARTMENT OF OCEAN DEVELOPMENT (SHRI KAPIL SIBAL): (a) No Sir. No international Tsunami warning system exists presently in the Indian Ocean.

(b) Does not arise.

(c) Efforts are being initiated to install an Indian Tsunami forecasting and warning system for detecting potential Tsunami waves that may be generated in the Indian Ocean.

Equipments to predict earthquakes

407. SHRI N. PREMCHANDRAN: Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) whether Government consider to install sophisticated equipment to predict the disasters such as earthquake etc. in the sea to avoid future Tsunami disaster;

(b) the reaction of Government thereto; and